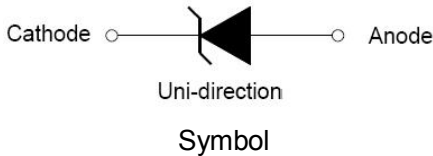
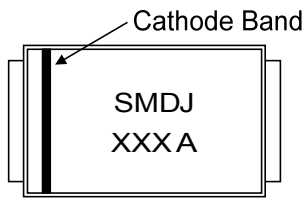


SMC

Features

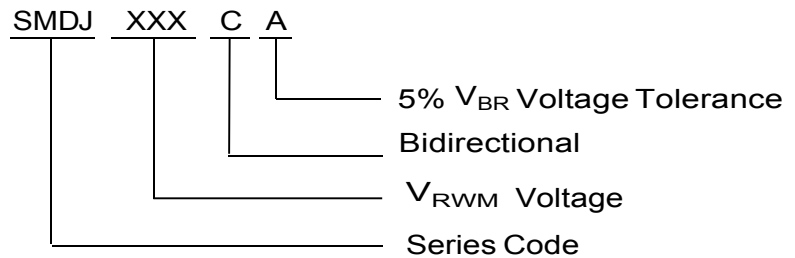
- Peak power dissipation 3000W@10 x 1000 us Pulse
- Low incremental surge resistance
- Excellent clamping capability
- Glass passivated junction
- Fast response time
- Low leakage current
- Halogen free and RoHS compliant

Mechanical Data

- CASE: SMCJ(DO-214AB) Molded Plastic
- Polarity: By cathode band denotes uni-directional device, none cathode band denotes bi-directional device
- Mounting Position:Any

Making Code & information


| Package | Packing Description | Packing Quantity |
|---------|---------------------|------------------|
| SMC | Tape/Reel,13" reel | 3000 |


Maximum Ratings & Thermal Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified.)

| Parameter | Symbol | Value | Units | Remarks |
|--|-----------------|------------|-------|----------------|
| Peak Pulse Power Dissipation | P_{PPM} | 3000 | W | (Note1)(Note2) |
| Steady State Power Dissipation | P_D | 6.5 | W | (Note3) |
| Peak Forward Surge Current | I_{FSM} | 300 | A | (Note4) |
| Maximum Instantaneous Forward Voltage at 100A | V_{FM} | 3.5/5 | V | (Note5) |
| Typical Thermal Resistance Junction to Lead | $R_{\theta JL}$ | 15 | °C/W | |
| Typical Thermal Resistance Junction to Ambient | $R_{\theta JA}$ | 75 | °C/W | |
| Operating Temperature Range | T_J | -55 to 150 | °C | |
| Storage Temperature Range | T_{STG} | -55 to 150 | °C | |

Notes1: Non-repetitive current pulse , 10/1000us Waveform.

Notes2: Mounted on copper pad area of 8×8mm to each terminal.

 Notes3: Infinite HeatSink at $T_A=50^\circ\text{C}$

Notes4: Measured on 8.3ms single half sine wave or equivalent square wave, duty cycle=4 perminute maximum.

 Notes5: For UnidirectionalOnly, $V_{FM}<3.5\text{V}$ for $V_{BR} \leq 200\text{V}$ and $V_{FM}<5.0\text{V}$ for $V_{BR} \geq 201\text{V}$.

Electrical Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified).

| Part Number | | Reverse Stand off Voltage V_R (V) | Breakdown Voltage V_{BR} @ I_T (V) | | Test Current I_T (mA) | Maximum Clamping Voltage V_C @ I_{PP} (V) | Maximum Peak Pulse Current I_{PP} (A) | Maximum Reverse Leakage I_R @ V_R (μ A) |
|-------------|-----------|-------------------------------------|--|-------|-------------------------|---|---|--|
| | | | Min | Max | | | | |
| Uni | Bi | | | | | | | |
| SMDJ5.0A | SMDJ5.0CA | 5 | 6.4 | 7 | 10 | 9.2 | 326.1 | 500 |
| SMDJ6.0A | SMDJ6.0CA | 6 | 6.67 | 7.37 | 10 | 10.3 | 291.3 | 500 |
| SMDJ6.5A | SMDJ6.5CA | 6.5 | 7.22 | 7.98 | 10 | 11.2 | 267.9 | 300 |
| SMDJ7.0A | SMDJ7.0CA | 7 | 7.78 | 8.6 | 10 | 12 | 250 | 200 |
| SMDJ7.5A | SMDJ7.5CA | 7.5 | 8.33 | 9.21 | 1 | 12.9 | 232.6 | 100 |
| SMDJ8.0A | SMDJ8.0CA | 8 | 8.89 | 9.83 | 1 | 13.6 | 220.6 | 50 |
| SMDJ8.5A | SMDJ8.5CA | 8.5 | 9.44 | 10.4 | 1 | 14.4 | 208.3 | 20 |
| SMDJ9.0A | SMDJ9.0CA | 9 | 10 | 11.1 | 1 | 15.4 | 194.8 | 10 |
| SMDJ10A | SMDJ10CA | 10 | 11.1 | 12.3 | 1 | 17 | 176.5 | 5 |
| SMDJ11A | SMDJ11CA | 11 | 12.2 | 13.5 | 1 | 18.2 | 164.8 | 2 |
| SMDJ12A | SMDJ12CA | 12 | 13.3 | 14.7 | 1 | 19.9 | 150.8 | 2 |
| SMDJ13A | SMDJ13CA | 13 | 14.4 | 15.9 | 1 | 21.5 | 139.5 | 2 |
| SMDJ14A | SMDJ14CA | 14 | 15.6 | 17.2 | 1 | 23.2 | 129.3 | 2 |
| SMDJ15A | SMDJ15CA | 15 | 16.7 | 18.5 | 1 | 24.4 | 123 | 2 |
| SMDJ16A | SMDJ16CA | 16 | 17.8 | 19.7 | 1 | 26 | 115.4 | 2 |
| SMDJ17A | SMDJ17CA | 17 | 18.9 | 20.9 | 1 | 27.6 | 108.7 | 2 |
| SMDJ18A | SMDJ18CA | 18 | 20 | 22.1 | 1 | 29.2 | 102.7 | 2 |
| SMDJ20A | SMDJ20CA | 20 | 22.2 | 24.5 | 1 | 32.4 | 92.6 | 2 |
| SMDJ22A | SMDJ22CA | 22 | 24.4 | 26.9 | 1 | 35.5 | 84.5 | 2 |
| SMDJ24A | SMDJ24CA | 24 | 26.7 | 29.5 | 1 | 38.9 | 77.1 | 2 |
| SMDJ26A | SMDJ26CA | 26 | 28.9 | 31.9 | 1 | 42.1 | 71.3 | 2 |
| SMDJ28A | SMDJ28CA | 28 | 31.1 | 34.4 | 1 | 45.4 | 66.1 | 2 |
| SMDJ30A | SMDJ30CA | 30 | 33.3 | 36.8 | 1 | 48.4 | 62 | 2 |
| SMDJ33A | SMDJ33CA | 33 | 36.7 | 40.6 | 1 | 53.3 | 56.3 | 2 |
| SMDJ36A | SMDJ36CA | 36 | 40 | 44.2 | 1 | 58.1 | 51.6 | 2 |
| SMDJ40A | SMDJ40CA | 40 | 44.4 | 49.1 | 1 | 64.5 | 46.5 | 2 |
| SMDJ43A | SMDJ43CA | 43 | 47.8 | 52.8 | 1 | 69.4 | 43.2 | 2 |
| SMDJ45A | SMDJ45CA | 45 | 50 | 55.3 | 1 | 72.7 | 41.3 | 2 |
| SMDJ48A | SMDJ48CA | 48 | 53.3 | 58.9 | 1 | 77.4 | 38.8 | 2 |
| SMDJ51A | SMDJ51CA | 51 | 56.7 | 62.7 | 1 | 82.4 | 36.4 | 2 |
| SMDJ54A | SMDJ54CA | 54 | 60 | 66.3 | 1 | 87.1 | 34.4 | 2 |
| SMDJ58A | SMDJ58CA | 58 | 64.4 | 71.2 | 1 | 93.6 | 32.1 | 2 |
| SMDJ60A | SMDJ60CA | 60 | 66.7 | 73.7 | 1 | 96.8 | 31 | 2 |
| SMDJ64A | SMDJ64CA | 64 | 71.1 | 78.6 | 1 | 103 | 29.1 | 2 |
| SMDJ70A | SMDJ70CA | 70 | 77.8 | 86 | 1 | 113 | 26.5 | 2 |
| SMDJ75A | SMDJ75CA | 75 | 83.3 | 92.1 | 1 | 121 | 24.8 | 2 |
| SMDJ78A | SMDJ78CA | 78 | 86.7 | 95.8 | 1 | 126 | 23.8 | 2 |
| SMDJ85A | SMDJ85CA | 85 | 94.4 | 104 | 1 | 137 | 21.9 | 2 |
| SMDJ90A | SMDJ90CA | 90 | 100 | 111 | 1 | 146 | 20.5 | 2 |
| SMDJ100A | SMDJ100CA | 100 | 111 | 123 | 1 | 162 | 18.5 | 2 |
| SMDJ110A | SMDJ110CA | 110 | 122 | 135 | 1 | 177 | 16.9 | 2 |
| SMDJ120A | SMDJ120CA | 120 | 133 | 147 | 1 | 193 | 15.5 | 2 |
| SMDJ130A | SMDJ130CA | 130 | 144 | 159 | 1 | 209 | 14.4 | 2 |
| SMDJ150A | SMDJ150CA | 150 | 167 | 185 | 1 | 243 | 12.3 | 2 |
| SMDJ160A | SMDJ160CA | 160 | 178 | 197 | 1 | 259 | 11.6 | 2 |
| SMDJ170A | SMDJ170CA | 170 | 189 | 209 | 1 | 275 | 10.9 | 2 |
| SMDJ180A | SMDJ180CA | 180 | 198 | 230.4 | 1 | 292 | 10.3 | 2 |
| SMDJ220A | SMDJ220CA | 220 | 242 | 281.6 | 1 | 356 | 8.4 | 2 |

Ratings and Characteristic Curves

(Ratings at 25°C ambient temperature unless otherwise specified).

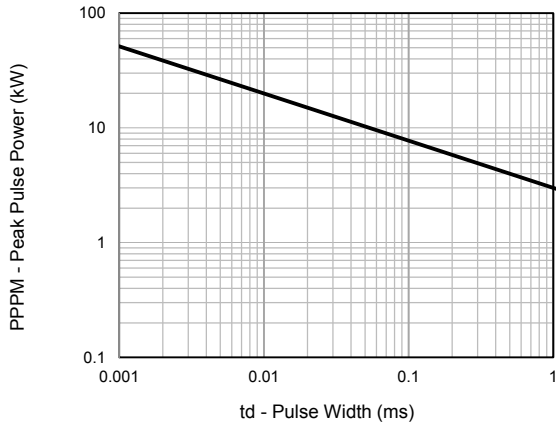


Fig.1 - Peak Pulse Power Rating

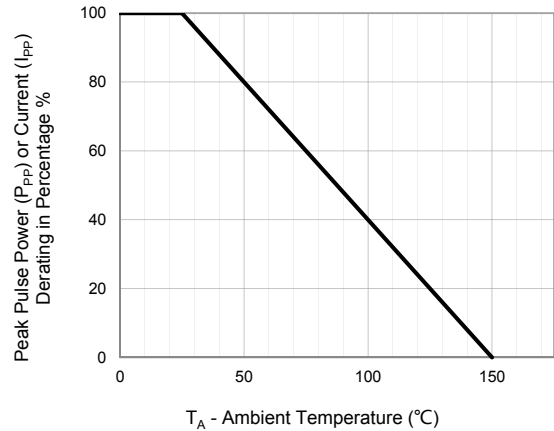


Fig.2 - Pulse Derating Curve

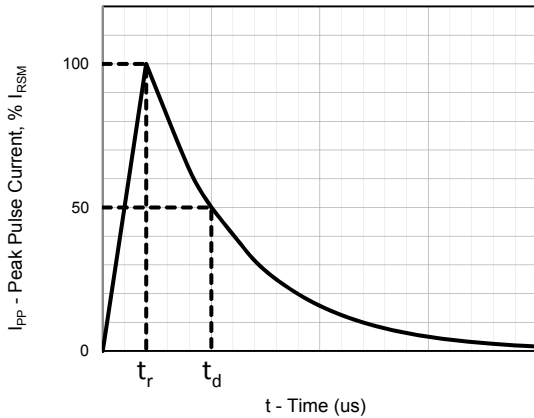


Fig.3 - Pulse Waveform

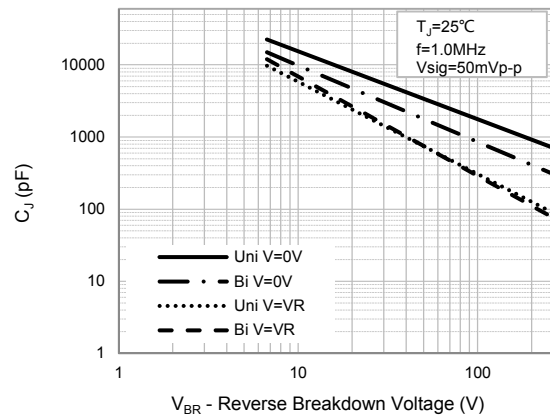


Fig.4 - Typical Junction Capacitance

Package Outline Dimensions: SMC(DO-214AB)

| Dim | Millimeters | | Inches | |
|-----|-------------|------|--------|-------|
| | Min | Max | Min | Max |
| L | 6.75 | 6.95 | 0.265 | 0.274 |
| D | 5.75 | 5.95 | 0.226 | 0.234 |
| D1 | 2.9 | 3.1 | 0.114 | 0.122 |
| T | 7.9 | 8.1 | 0.311 | 0.319 |
| T1 | 0.85 | 1.3 | 0.034 | 0.051 |
| d | - | 0.2 | - | 0.008 |
| H | 2.45 | 2.65 | 0.096 | 0.104 |
| H1 | 2.3 | 2.5 | 0.09 | 0.098 |

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